

# the news



FIRST CLASS MAIL

Presorted  
1st Class Mail  
U.S. Postage Paid  
Philadelphia, PA  
Permit No. 1845

PHILADELPHIA SECTION  
AMERICAN SOCIETY OF CIVIL ENGINEERS

P. O. Box 58186, Philadelphia, PA 19102-8186

Vol. 63-2

*Our 77th Year*

November-December, 1990

## NOVEMBER DINNER MEETING

Philadelphia Section, American Society of Civil Engineers

### TUESDAY, NOVEMBER 27, 1990

Downtown Club - 11th Floor Meeting Room, Public Ledger Building

6th & Walnut Sts., Philadelphia (Entrance on 6th St., between Chestnut & Sansom Sts.)

(Discount parking at Phila. Life Insurance Building, 7th St., north of Chestnut.)

Get parking ticket stamped at Meeting Room desk.)

Cocktails - 5:30 p.m. Dinner - 6:30 p.m. Meeting - 7:30 p.m.

**SUBJECT: COMPOSITE STRUCTURAL SYSTEMS IN HIGH-RISE BUILDINGS**

**SPEAKER: LESLIE E. ROBERTSON**, President, Leslie E. Robertson Associates, Consulting Engineers, New York City.

A native of Southern California, Mr. Robertson has lived in New York since 1963. An admitted early "terrible student" and high-school dropout, he served 2-1/2 years as an electronics technician in the Navy, got into the University of California at Berkeley by examination and majored in electrical and civil engineering. Again, a "terrible student," he says he's "good at concepts, but bad at formulas." Staff members joke that Robertson wouldn't be hired today because he doesn't have a Master's Degree, although he has been awarded two honorary Doctorships.

After work with several firms, Mr. Robertson's career found maturity with the Seattle Consulting office of Skilling Ward Magnusson Barkshire, Inc. where, after a long association, he became a partner in 1963. The firm then became Skilling Helle Christiansen Robertson, a name that lasted 19 years, until he established his own present firm.

*(Continued on Page 2)*

**THERE WILL BE NO PHILADELPHIA SECTION ASCE MEETING IN DECEMBER, 1990. THE NEXT ISSUE OF THE NEWS WILL BE JANUARY, 1991.**

## JANUARY JOINT DINNER MEETING

Philadelphia Section and Reading Branch, American Society of Civil Engineers  
Delaware Valley Section, American Society of Highway Engineers (ASHE)

### WEDNESDAY, JANUARY 9, 1991

Location: Holiday Inn, Goddard Boulevard, King of Prussia, PA  
(Location map will appear in the January, 1991 issue of THE NEWS)

**SUBJECT: ENGINEERING OF THE 90s - CHALLENGE AND OPPORTUNITY**

**SPEAKER: E. ROSS FORMAN, P.E.**, Director of Automation Technology, Day & Zimmerman, Inc., Consulting Engineers, Philadelphia, PA. 1990 Delaware Valley Engineer of the Year.

As the result of the increasing use of sophisticated computer driven technology to solve the problems facing our economy in this decade, engineers are challenged more than at any other time in our memories; and we have the opportunity to assume increasing importance in our society.

Among the principal problems are: solids waste disposal; energy shortages; choked transportation routes; longer living populations compressed into the same amount of space; and many others.

**SPECIAL FEATURE: UNIVERSITY OF PENNSYLVANIA NIGHT**

**PLEASE FILL OUT AND RETURN RESERVATION COUPON AS DIRECTED ON PAGE 2 - FOR THE JANUARY 9, 1991 MEETING**

## TECHNICAL GROUP ACTIVITIES Geotechnical and Environmental/Water Resources Group

(Combined program for 1990-1991)

### November Meeting

Date: **Wednesday, November 28, 1990, 7:00 pm**

Location: Hill Seminar Room, LeBow Engineering Center, Market & 31st Sts., Drexel University, Philadelphia, PA.

**SPEAKERS: Michael T. Christopher**, Manager, Hydrogeology Department, RGH/CH2M Hill

**Dennis M. Hattem, P.E.**, Project Manager, RGH/CH2M Hill

**SUBJECT: Siting of Hazardous and Solid Waste Controversial Facilities**

Evaluation of potential sites for controversial facilities, (e.g., solid and hazardous waste landfills, incinerators, power plants), involves application of several levels of screening criteria which can be based on existing regulations, community/regulatory concerns and environmental conditions. Sites, however, must be permissible under today's stringent requirements for environmental protection. This presentation will describe several major elements of a siting study and application of these elements in actual projects.

Several aspects of site suitability can only be confirmed by on-site testing, and the application of all criteria to a site may create unforeseen conflicts or difficulties. Recent site studies have suggested several ways to increase the likelihood of successfully locating a site, while maintaining an appropriate concern for environmental protection.

Any questions concerning the session may be addressed to **Raymond Lees**, Chairman, Environmental/Water Resources Group, at (215) 542-9100 or **Dr. Joseph Martin**, Chairman, Geotechnical Group, at (215) 885-2363.

We are in the process of a massive expansion and update of the mailing list. To receive direct notices of the meetings, please send your name and address to your Group of choice. (See page 4 for Group Chairmen information).

*(Continued on Page 2)*

**RESERVATION FORM FOR PHILADELPHIA SECTION ASCE JANUARY DINNER MEETING  
WEDNESDAY, JANUARY 9, 1991 - HOLIDAY INN, KING OF PRUSSIA**

Please reserve \_\_\_\_\_ dinner(s) at \$19.00 each. Check enclosed \$\_\_\_\_\_.

Students - \$9.50 (Group Reservations by Faculty Advisors). You are welcome to attend all Section Meetings after Dinner, at no charge.

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Please return with payment to: **ASCE**  
**P.O. Box 58186**  
**Philadelphia, PA 19102-8186**

Reservations must be postmarked no later than **December 28, 1990**.

Tickets will be issued at the door.

**IMPORTANT: Dinner Reservations for ALL Section Meetings Are Essential. Please mail in Your Reservation Coupon As Directed.**

**November Meeting**

*(Continued from Page 1)*

Mr. Robertson's long list of accomplishments include: The Bank of China Building, Hong Kong, a 1,209 ft. tall megastructure of composite design, the fifth tallest building in the world; the 1,368 ft. and 1,362 ft. tall towers of the new York World Trade Center; the AT&T Building in New York City; the glass-cathedral style PPG Place in Pittsburgh; among numerous others. Mr. Robertson leads an engineering practice serving clients on five continents. He devotes generously of his time also on causes that range from nuclear disarmament to engineering research.

Mr. Robertson will describe his innovative composite concept as designed for spectacular buildings throughout the world.

**DON'T MISS THIS STIMULATING MEETING!!!**

**SPECIAL FEATURE: TEMPLE UNIVERSITY NIGHT**

The ASCE Student Chapter, Faculty and Alumni of the Civil Engineering Dept. of Temple University will be honored at this meeting. All students, faculty and alumni are cordially invited to attend.

**The Engineering Management Group of the Phila. Section** needs input from the membership in order to formulate programs. Please fill out the questionnaire below indicating your degree of interest in each of the topics and mail to: **Alvin Zion**, Chairman, Hill International, Inc., One Levitt Parkway, Willingboro, NJ 08046, (609) 871-5800.

Name \_\_\_\_\_ Company \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please indicate your degree of interest in the following aspects of management at the organization, project and individual levels, and the likelihood of your attending a session on that topic.

1 - High • 2 - Medium • 3 - Low

<b>ORGANIZATION</b>	<b>PROJECT</b>	<b>INDIVIDUAL</b>
<input type="checkbox"/> Personnel & Support Svcs	<input type="checkbox"/> Staffing	<input type="checkbox"/> Personal Motivation
<input type="checkbox"/> Budgeting & Cost Control	<input type="checkbox"/> Manpower Planning & Schdl	<input type="checkbox"/> Education & Self-Imprvt.
<input type="checkbox"/> Liability & Insurance	<input type="checkbox"/> Organizational Interfaces	<input type="checkbox"/> Career Planning
<input type="checkbox"/> Equipment & Facilities	<input type="checkbox"/> Communications	<input type="checkbox"/> Rspnsblty & Authority
<input type="checkbox"/> Law & Regulations	<input type="checkbox"/> Client & Regulatory Relat's	<input type="checkbox"/> Supervision
<input type="checkbox"/> Public Relations	<input type="checkbox"/> Facilities	<input type="checkbox"/> Compensation
<input type="checkbox"/> Market, Proposals, Contracts	<input type="checkbox"/> Contractural Obligations	<input type="checkbox"/> Work Environment

Check this box if you are interested in serving on a committee!

**Transportation & Urban Development Group**

December Meeting

Date: **Thursday, December 13, 1990, 7:00 p.m.**

Location: University of Pennsylvania, Rittenhouse Laboratory Room A-4, 33rd & Walnut, Philadelphia, PA (Free parking is available in UofP parking lot No. 1).

SPEAKER: **Peter Gaffer**, Regional Manager, LSTS

SUBJECT: **"More Than the TGV"**

Mr. Gaffer will provide a presentation on the great advance being made in France among rail

modes of travel. He will briefly describe the TAG Light Rail Line in Grenoble, the TGV High Speed Mainline and the RER Commuter Lines serving Paris, France. It should be an enlightening evening.

There will be no reservations required and you're on your own for dinner. Our regular format will continue in January. If you have any questions, please call **William T. Thomsen, P.E.**, Chairman Transportation and Urban Development Group at (215) 922-8080.

- PHILA. SECTION, ASCE  
OFFICERS 1990-1991**
- PRESIDENT**  
Francis J. Depman
- VICE PRESIDENTS**  
Moustafa A. Gouda (President-Elect)  
Klause K. Fuelleborn
- SECRETARY**  
Robert M. Wright
- TREASURER**  
Thomas J. Branigan
- ASSISTANT TREASURER**  
Darin I. Gatti
- MEMBERSHIP SECRETARY**  
Drew S. Mihocko
- DIRECTORS**  
Patrick R. Cairo      Sheldon A. Kinbar  
William G. Richards      William H. Polk  
Joseph P. Martin      David A. VanOcker  
John Vitillo (Reading Branch)
- PAST PRESIDENTS**  
Norman G. Weintraub  
Susan K. Lior  
J. Richard Weggel  
Rodolfo Wahanik - President, Reading Branch

- President - Francis J. Depman**  
Kaufman Construction Co.  
4000 Pulaski Ave.  
Philadelphia, PA 19140  
(215) 223-4700
- Secretary - Robert M. Wright**  
City of Philadelphia  
Department of Streets  
920 Municipal Services Building  
Philadelphia, PA 19102  
(215) 686-5538
- PUBLICATIONS COMMITTEE**  
Chairman and Editor of THE NEWS  
Sidney Robin  
Associate Editor - Joseph R. Szymick  
Staff Writers  
Wm. G. Richards      Robert M. Wright  
Publications Coordinator  
Albert M. Tantala

**SEND COPY TO:**  
Sidney Robin  
64 Nancy Drive  
Richboro, PA 18954  
(215) 322-7464

**COPY DEADLINE  
FOR  
JANUARY 1991  
ISSUE  
DECEMBER 5, 1990**

## OCTOBER DINNER MEETING

October 10, 1990

Downtown Club

### USE OF GEOSYNTHETICS IN SOLID WASTE FACILITIES

By Bill Richards, Staff Writer

The Philadelphia Section, ASCE inaugurated its 1990-91 season with a well-attended meeting held in the excellent facilities of the Downtowner Club on Wednesday evening, October 10th. We certainly welcome our members who have not been to the Downtown Club to the next Section meeting there on **November 27, 1990** and partake of the fine food and to socialize. October's meeting featured **Robert M. Koerner, Ph.D., P.E., H.L. Bowman**, Professor of Civil Engineering, Director of Geosynthetic Research Institute, Drexel University, principal speaker; and honored the Drexel University ASCE Student Chapter. The meeting was conducted by our new President, **Francis J. Depman**.

#### Drexel University Night

Featured at the meeting were the ASCE Student Chapter, Faculty, Alumni and the Department of Civil and Architectural Engineering of Drexel University. **Dr. Joseph P. Martin**, Faculty Advisor for the Student Chapter, gave a brief description of the Civil Engineering program and the Chapter, which includes Graduate, Student involvement for the first time this year.

#### Chapter President Carey Reviews Activities

Drexel ASCE Student Chapter President **Joe Carey** thanked the Section for its courtesies and introduced his fellow officers: Vice President, **Bob Bathurst**; Treasurer, **Jim Fleck**; Membership Secretary, **Andy Kreck**; Recording Secretary and Newsletter Editor, **Bill Dougherty**; also, Student Department Head **Dave Scherer**; and Concrete Canoe Race Arrangements Coordinator, **Dr. Claire Welty April**. Mr. Carey summarized the Chapter's upcoming program during Drexel's 100th Anniversary year. This will include faculty involvement at regular weekly meetings, monthly socials, hosting the Philadelphia Concrete Canoe Race, field trips and making available this year's "resume book," including experience profiles for all graduating seniors and underclassmen seeking co-op work. We wish Drexel's Chapter a very prosperous program in this special year for them.

#### Dr. Koerner and Geosynthetics

Past President **J. Richard Weggel** introduced our featured speaker and his topic: "Geosynthetic Material Utilization in Solid Waste Containment Facilities." **Dr. Robert M. Koerner** is a Drexel graduate in Civil Engineering in 1956 and 1963, with a Ph.D. from Duke in 1968. He has experience with construction and design firms and has been at Drexel since 1968 concentrating on teaching and research. For the past 7 to 10 years he has specialized in the field of geosynthetics, and has written many articles and books on this subject. He helped to found the Geosynthetic Research Institute located at Drexel.

Bob began by describing the present solid waste problem in this country. The quantities of solid waste being produced have more than doubled in the last decade, and over 70% is now being landfilled. In fact the use of landfills is our de facto solid waste disposal system.

#### Preserving the Environment

Geosynthetic materials are a strategy to preserve the environment in the vicinity of landfills. Leachate

from landfills is confined, collected and controlled through the use of synthetic liners. Through the passage of regulations, the complexity of liner designs has increased over the years. Plastics are used in geomembranes, textiles, three-dimensional nets, pipes, composites, and grids throughout the landfill system. In many present day designs there are as many as 12 layers of geosynthetics vertically through the landfill. Landfill operation has become a very major market for geosynthetics.

Dr. Koerner took the audience through the elements of design for a modern landfill. He then described the safety factors and development of design parameters to be used in design. Then he turned his attention to several of the remaining issues of concern in the use of geosynthetics in landfills.

The chemical resistance of liner materials is a concern to which high density polyethylene is most resistant. The resolution of creep and associated stress is another concern. How to effectively seam the edges and the potential for cracking due to sun exposure continues to be a problem. Clogging of the filters and drains due to the leachate being high in sediment and microbiological organisms is one of the biggest flaws in the system. Finally the long-term degradation and aging of the plastic remains an uncertain area. Lifetimes of a few hundred to a few thousand years may be necessary, but no such examples yet exist. Dr. Koerner finished by describing several of the innovations in the use of geosynthetics such as attached spikes to improve friction.

#### Question and Answer Period

Following Dr. Koerner's formal talk, several thought-provoking questions and comments from members in the audience reflected keen interest in the subject; and a profound insight and vast knowledge by our distinguished speaker in this relatively new and exciting science of soil mechanics.

President Depman adjourned the meeting and the audience left with positive anticipation of the rest of this season's Philadelphia Section program.

## MEMBERS IN THE NEWS

#### Durrant Appointed

District 4 Director **John E. Durrant**, Past President of the Phila. Section, has been named to **ASCE National Committee on Government Affairs** for the term ending 1993. The charge of this Committee is to coordinate government affairs activities of National significance to members of the civil engineering profession. For example, the committee is responsible for developing an annual ASCE agenda, for setting strategies and priorities for accomplishing Board approved policies, and for promoting appointments of civil engineers to significant positions within the federal government.

John is employed by the Philadelphia Water Department and is Chief of its Material Testing Laboratory.

#### Tantala Joins Wind Council

Phila. Section Past President **Albert M. Tantala, P.E.**, President of Tantala Associates Consulting Engineers, has become a member of the

## POSITION AVAILABLE TEMPLE UNIVERSITY

THE DEPARTMENT OF CIVIL ENGINEERING at Temple University invites applications for a tenure track position. The applicant should have expertise in the transportation area, with a sound background in related areas such as construction engineering, soil mechanics and structures. The appointment is intended for Fall 1991, but consideration will be given for a January 1991 appointment. Applicants should hold a Ph.D. in civil engineering or a closely related field and possess good writing and oral communication skills. Proven research capabilities and a commitment to teaching are desired. Responsibilities include funded research and the development and teaching of graduate and undergraduate courses. Applications will be accepted until the position is filled. Applicants should send a resume, which includes courses taken, courses taught, publications (printed and in progress), research activities, etc., along with the name of three references, to: **Dr. Frederick C. Schmitt**, Chair of the Civil Engineering Department, Temple University, Philadelphia, PA 19122. Temple University is an affirmative action, equal opportunity employer serving over 34,000 students.

## MERSKY WINS EDMUND FRIEDMAN AWARD

The Philadelphia Section is proud to announce that its distinguished member, **Dr. Ronald L. Mersky**, Associate Professor of Civil Engineering, Widener University, is the Zone 1 winner of the *1990 National ASCE Edmund Friedman Young Engineer Award for Professional Achievement*. Dr. Mersky was presented the Award at special ceremonies at the Annual Business Meeting on November 7, 1990, during the 1990 Annual ASCE Civil Engineering Convention and Exposition in San Francisco November 5-8, 1990. There were five recipients of the Award, one from each Zone.

The Award was established through funds contributed by National ASCE Past President Edmund Friedman, and was instituted by Board of Direction action in October, 1972. It recognizes members of ASCE 32 year of age or less who are judged to have attained significant professional achievement.

A previous Philadelphia Section winner of this Award is District 4 Director **John E. Durrant**. A detailed list of qualifications and rules was published in the October, 1989 issue of THE NEWS, and will be repeated in the January, 1991 issue. Philadelphia Section members are urged to consider and submit nominees as directed in the article.

The Philadelphia Section extends its heartiest congratulations to Ron Mersky on his achievement of this prestigious Award.

**INVITE YOUR  
ASSOCIATES TO  
ALL ASCE MEETINGS  
WITH YOU!**

## ASCE DUES BILL AND TECHNICAL GROUP DETAILS

Section members will notice in the 1991 dues bill from National ASCE Headquarters, that the PHILADELPHIA (SECTION) DUES is itemized as \$13.00. This amount includes assessment for membership in one Phila. Section Technical Group of your choice. *If you choose to be a member of more than one group, please add \$1.00 for each group.*

Also, because National's bill did not list the Technical groups to which your \$1.00 payments were to be applied, *you are requested to get in touch with the Chairman of the Technical Groups of your preference*, so that their membership lists can be classified.

The appropriate individuals to contact are the following:

### Liaison

*Klaus K. Fuelleborn*

Pennoni Associates, Inc.  
594 S. West End Blvd.  
Quakertown, PA 18951  
(215) 561-0460

### Younger Member Forum

*President position available.*

If interested, please contact Klaus Fuelleborn (See "Liaison" above).

### Construction

*Fredric L. Plotnick, Chairman*

Engineering & Property Mgt. Consultants  
806 Hilton Lane  
Elkins Park, PA 19117  
(215) 885-3733

### Structural

*David A. VanOcker, Chairman*

Christakis & Kachele, Inc.  
6910 Ludlow Street  
Upper Darby, PA 19082  
(215) 352-7676

### Transportation & Urban Development

*William T. Thomsen, Chairman*

Urban Engineers, Inc.  
330 N. Third St.  
Philadelphia, PA 19406  
(215) 922-8080

### Engineering Management

*Alvin Zion, Chairman*

Hill International, Inc.  
1 Levitt Parkway  
Willingboro, NJ 08046  
(609) 871-5800

### Geotechnical

*Dr. Joseph P. Martin, Chairman*

Drexel University  
Civil Engineering Dept.  
32nd & Chestnut Sts.  
Philadelphia, PA 19104  
(215) 895-2363

### Water Resources &

### Environmental Engineering

*Raymond A. Lees, Chairman*

Westinghouse Environmental &  
Geotechnical Services, Inc.  
323 Norristown Rd., Suite 206  
Ambler, PA 19002  
(215) 542-9100

## IMPORTANT! 1990-1991 MEETING NOTICES

MARK YOUR CALENDAR for the dates of the remaining Philadelphia Section, ASCE monthly meetings and social functions, as follows:

### ALL DINNER MEETINGS

Cocktails - 5:30 p.m. Dinner - 6:30 p.m. Meeting - 7:30 p.m.

STUDENTS: All dinner and luncheon charges one-half price. If you prefer, you are welcome to attend all meetings after dinner or luncheon, at no charge.

### December, 1990 - No Meeting

**Wednesday, January 9, 1991** - Dinner Meeting, HOLIDAY INN, KING OF PRUSSIA

Joint meeting with American Society of Highway Engineers (ASHE) and the Reading Branch, ASCE, of Phila. Section

Subject: **Engineering of the 90's - Challenge and Opportunity**

Speaker: **E. Ross Forman, P.E.**, Delaware Valley Engineer of the Year, 1990  
*University of Pennsylvania Night*

**Tuesday, February 12, 1991** - Dinner Meeting, WILLIAMSON'S, GSB Building,

City Line Ave., Phila.

Joint Meeting with Delaware Valley Chapter, American Public Works Association (APWA)

Subject: **Infrastructure - The Crumbling of America**

Speaker: **Albert M. Tantala**, Past President, Phila. Section, ASCE: President, Tantala Associates, Inc.

*Swarthmore College Night*

**Tuesday, March 12, 1991** - Dinner Meeting, HARBOR LEAGUE CLUB, Camden, NJ

Joint Meeting with South Jersey Section, ASCE

Subject: **Port Coordination**

Speakers: Panel to be announced

*Widener University & Villanova University Night*

**Wednesday, April 10, 1991** - Dinner Meeting, OFFICERS' CLUB, US Naval Base, Phila.

Joint Meeting with Phila. Post Society of America Military Engineers (SAME)

Subject and speaker to be announced.

*Spring Garden College Night*

**Saturday Evening, June 1, 1991**

**Annual Spring Dinner Dance** - HOLIDAY INN, City Line Ave., Phila.

## SECTION CO-SPONSORS WASTE MANAGEMENT CONFERENCE

The Philadelphia Section, ASCE, is co-sponsoring the *Sixth International Conference on Solid Waste Management and Secondary Materials*, to be held at the Penn Tower Hotel, Philadelphia, PA, December 4-7, 1990. Sponsors of the Conference are: The Journal of Resource Management and Technology; The University of Pennsylvania Department of Systems; Widener University, Department of Civil Engineering; City of Phila., Office of Recycling; State of Delaware Solid Waste Authority; U.S. Environmental Protection Agency, Regions 2 and 3. Other co-sponsors are: University of Delaware, Department of Civil Engineering; The Caribbean Association of Environmental Health Officers; Pennsylvania Resources Council; Pennsylvania Environmental Council; the University of Alabama, Environmental Institute for Waste Management Studies; and Delaware Valley Clean Air Council.

The First Conference in this series was held under the title *First Symposium on Industrial Resource Management*, in Philadelphia in 1981, to bring together experts from government, business and academia to examine issues related to various fields of solid wastes/resources management and technology. The second Conference was held in

Philadelphia in 1983, the third in New York City in 1987, and the fourth and fifth in Philadelphia in 1988 and 1989.

Over these years, it has been seen how the proper management of solid wastes has changed from a routine engineering and public works function into a difficult and costly operation that severely strains the resources of many communities. As research and development activity has increased, the inter-disciplinary nature of the solid waste field has become more apparent. To effectively manage solid wastes today, one must utilize knowledge from engineering, public policy, economics, marketing and several other disciplines.

Cost of the Conference registration is \$200 per person, which includes admittance to all sessions, the ice-breaker party, lunches and the Award dinner. For full details and registration forms please contact: The Sixth International Conference on Solid Waste Management and Secondary Materials, Department of Civil Engineering, Widener University, Chester, PA 19013-5792. Conference Chair is **Dr. Iraj Zandi**, University of Pennsylvania; Planning and Program Chair is **Dr. Ronald L. Mersky**, Widener University.